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LAND USE SHIFTS AND INCREASING CEREAL GRAIN OUTPUT IN E.C.

by

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U.S. exports of farm products to the original Common Market (EC) countries totaled $2.1 billion in 1972--a substantial growth from the $1.2 billion in 1962. The composition of that trade has changed with lower sales in 1972 of wheat, lard, poultry and egg products than in 1962 when the E.C. started adjusting to a unified farm price policy.

U.S. feed grain exports since 1962 have fluctuated and ranged from the 1966 peak of $476 million to the low of $225 million in 1969. Almost all of the increase in farm exports to the EC are non-variable levy items with oilseeds and products being the major beneficiary.

At the same time the E.C. output of feed grains, especially corn, has been rising rapidly. This may foretell a decline in U.S. corn exports since combined EC countries have been the biggest world market for feed grains.

This article discusses shifting land use in the EC secured through a study trip to the various EC countries in 1972 in which knowledgeable people in government, business, trade associations and university personnel were interviewed. The article briefly covers some of the policy background, developments in land use patterns, shifts between cereals-forages, and the changing relationships in cereal production. Corn acreage and yields will receive more specific attention.

The Background

The Common Agricultural Policy (CAP) was initiated in 1962 with each country systemically adjusting their prices upward or downward until the EC achieved a unified price system in 1967. The cereal grain prices in the EC are supported far above those in the U.S. and most of the world. Thus, they developed a variable levy system to protect their farmers from imports. In this system, excess production of supported items becomes eligible for export subsidies that move products into world markets in competition with other suppliers. For example, wheat is not only eligible for export subsidies but also is moved into EC feed grain markets through a denaturing process and payment. This increases domestic EC feed grain supplies and reduces the need for imported feed grains.

Shifts in policy emphasis can be partially ascertained by comparing EC price targets, orientation prices and intervention prices (Table 1). The intervention price is the basis for determining the variable levy with provisions for adjustments for seasonal and locational factors. Support prices for commodities to producers are a little below the intervention prices shown.

Target barley and corn prices were increased 14 and 12 percent, respectively from the unified 1967 level to 1972-73 with further increases programmed for 1973-74. The absolute and percentage increase are both greater than for wheat. Production shifts result from differentials in net income between alternative crops considering yields, costs and prices. The price changes would seem to

favor corn and barley. This will be explored later.

Table 1. FIXED PRICES IN E.C. PER 1000 KG OR METRIC TON

Price Nature	1967 Amount	1971-72 Amount	1971-72 % Change From 1967	1972-73 Amount	1972-73 % Change From 1967	1973-74 Amount	1973-74 % Change From 1967
		(Unit of Account/Metric Ton)1/					
Wheat (Soft)							
Price Target	106.25	109.44	3.0	113.80	7.1	114.94	8.2
Intervention	98.38	100.72	2.4	104.75	6.5	105.80	7.5
Barley							
Target	91.25	100.21	9.8	104.25	14.2	105.29	15.4
Intervention	85.00	92.02	8.3	95.70	12.6	96.66	13.7
Corn							
Target	90.63	96.90	6.9	101.75	12.3	102.77	13.4
Intervention	77.00	79.31	3.0	83.25	8.1	N.A.	--
Milk							
Target	103.00 (1968)	109.00	5.8	117.70	14.3	124.20	20.6
Beef							
Orientation	680.00 (1968)	720.00	5.9	780.00	14.7	862.00	26.8
Veal							
Orientation	915.00 (1968)	942.50	3.0	965.00	5.5	1,037.50	13.4
Pork							
Orientation	735.00	800.00	8.8	825.00	12.2	860.00	17.0

Kilogram = 2,204 lbs.; metric ton = 2204.6 lbs.

1/ Unit of account prior to 1971 was $1.00; today $1.206 per unit which corrects for devaluation.

SOURCE: Foreign Agricultural Trade of the U.S., ERS, USDA, May, 1973.

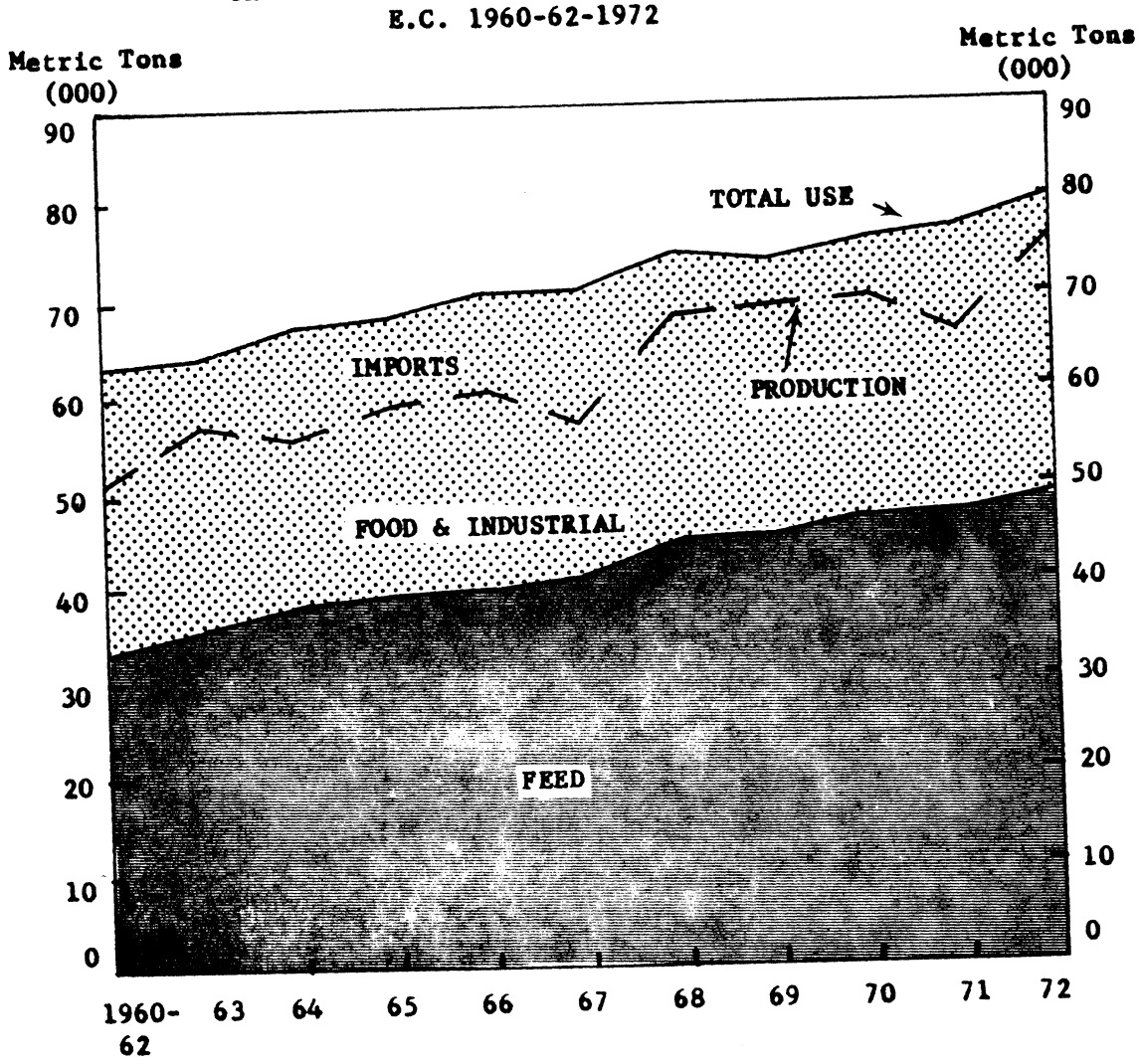
The orientation prices for veal in all years far exceed those of pork or beef. Beef orientation prices have increased more rapidly than pork and in 1973-74 will exceed pork. Of additional importance, the absolute difference between veal and beef are narrowing and should improve the returns from beef relative to veal. These significant policy changes reflect a growing desire to encourage beef output.

Milk prices have increased substantially which has encouraged milk output and an accumulation of surplus butter in the EC. A major way for EC farmers to take advantage of the veal-beef-milk prices increases is to expand cattle numbers. This increases not only feed requirements but also places additional demand for more pasture and roughage.

The total use of wheat and coarse grains increased nearly 17,000 metric tons from 1960-62 through 1972 (Chart 1). The use of grain for food and industrial uses remained constant even though population increased substantially. The per capita use of cereal grain has declined at the same rate thatt EC population has increased. The same trend exists in the U.S. Grain for livestock feed since 1960-62 has gone up a big 16,156,000 tons or 21.5 percent. Growth in the use of feed grains for poultry, swine and cattle feeding has been steady. Increased use of grains reflects increased purchasing power of the EC consumers and rising demand for livestock products.

The production of grains in the EC has trended upward, though unevenly, throughout the 12-year period (Chart 1). The increased output from 1960-62 through the good 1972 crop year was 24,329,000 tons. The EC production appears to be increasing a little more rapidly than use making them slightly less dependent upon other countries for feed grains.

CHART 1 - PRODUCTION AND USE OF GRAINS
E.C. 1960-62-1972



Agricultural Land Use Patterns

Farmland in the EC has been lost to urban areas through highway, airport, plant and housing construction plus other uses associated with urbanization and industrialization. Expanding cities and other non-farm uses of land has resulted in a loss of over 2.5 million hectares or 3.5 percent in the amount of land used for agricultural purposes (excluding forestry) in the decade of the 1960's (Chart 2). The average annual decline was 316,622 hectares.

Permanent pasture land increased 800,000 hectares to 26,711,000 in 1970 and utilized 38.2 percent of the total land devoted to agriculture, excluding forestry (Chart 2). This compares to 25,911,200 hectares or 35.7 percent in the 1960-62 base period. The expansion in permanent pasture acreage is widely dispersed in the EC and is due to many interrelated factors.

The structure of EC agriculture encourages livestock production. Farms are relatively small and often unsuited to crop mechanization. They need to more fully employ the available labor. Many farmers are relatively old and others are part-time farmers. About 60 percent of the EC farms produce milk and other than in the Netherlands and isolated instances in other EC countries, milk is produced in very small sized dairy units. Cattle numbers in the EC have been increasing. Improved producer prices and income possibilities come from rapidly expanding consumer demand for beef and rising EC support prices for beef, milk and milk products. European cattle are predominantly dual purpose breeds, so beef production and milk are closely tied together.

Permanent pasture improvement practices like fertilizeing, liming, clipping, draining, etc. have not been widely practiced, except in the Netherlands. Thus, more land has been needed to expand livestock numbers and output. Recent CAP policies raising livestock orientation prices substantially reveals an increasing emphasis on livestock production. This may further encourage expansion of permanent pasture acreage. In the longer run it may encourage increased carrying capacity per hectare through better management and cultural practices on the limited land area.

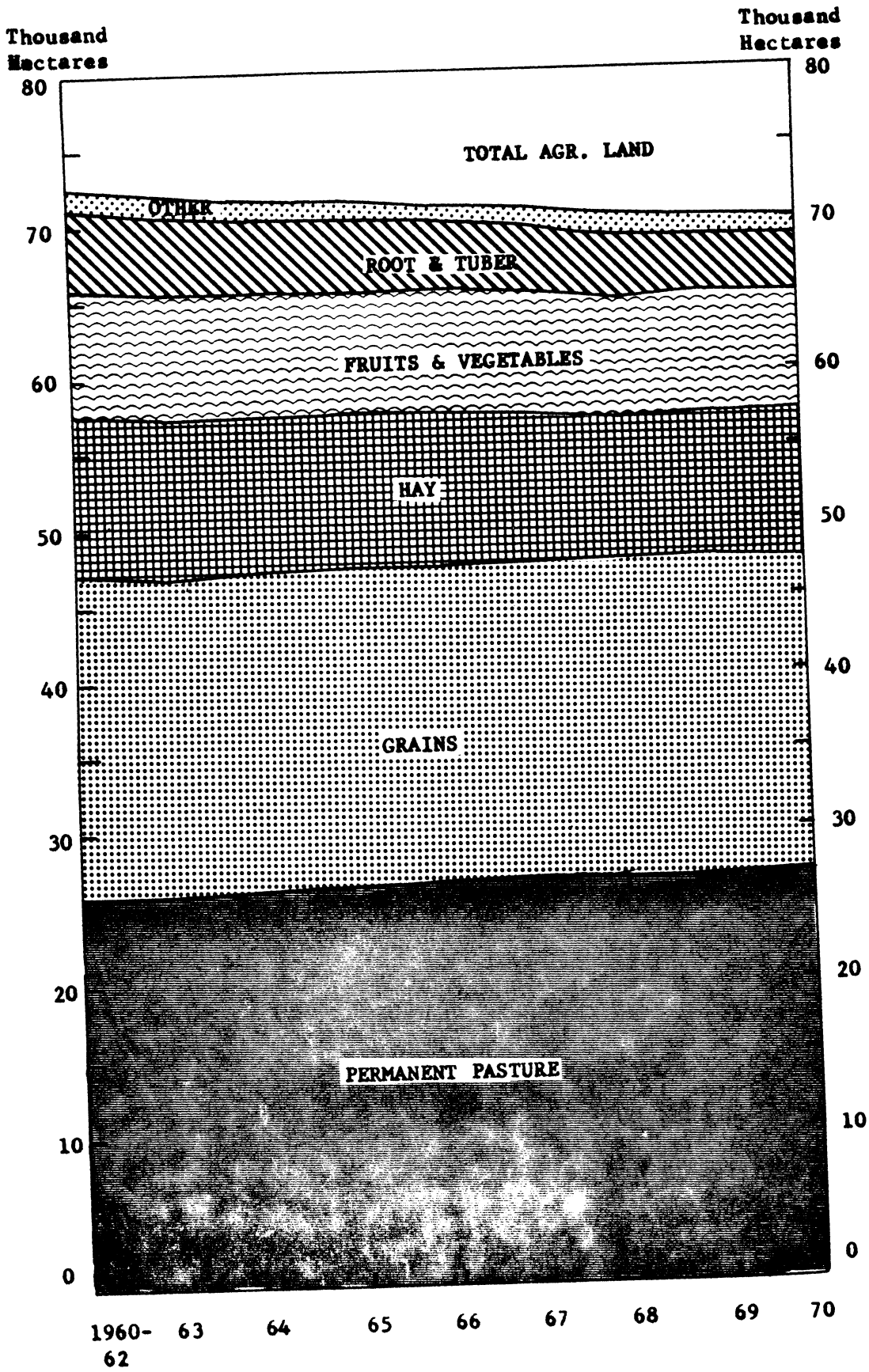
Land Used for Crops Has Declined

The result of increasing the area devoted to permanent pasture and the loss of farmland to non-farm uses in the EC was a much bigger loss of land for the cultivation of crops. There were 3.3 million or about seven (7) percent fewer hectares available for the production of rotated hay, grain, vegetables, fruits, root and tuber crops and all other crops in 1970 than the 1960-62 base period (Chart 2). Within the cultivated farmland area of the EC each use showed a decline since 1960-62. Grains declined the least while root and tuber crops have declined the greatest.

The amount of land devoted to wheat and coarse grains has fluctuated around 21,000,000 million hectares for the 1960-62 through 1970 period. Root and tuber crops have declined steadily with 1.5 million or 29 percent fewer hectares devoted to these crops today. Forage root crops and potatoes declined substantially.

Hay crops declined 822,000 hectares or eight (8) percent from 1960-62 to the 1970 period. A major substitute for both hay and forage root crops has been corn silage. Corn silage has been attractive because it has relatively high yields, is nutritionally adequate, is easily handled by mechanical equipment and

CHART 2 - AGRICULTURAL LAND USE PATTERNS IN THE E.C. 1960-1970



and is less demanding of hand labor.

Fruits, vegetables and nursery uses declined 489,000 hectares or six (6) percent. All other uses which includes pulses and industrial crops, decreased 129,000 hectares or 10 percent from 1960-62 through 1970.

More Land Used for Corn and Barley: Less for Other Cereals

The amount of land devoted to wheat in 1971 totaled 9,830,000 hectares, 693,000 or seven (7) percent fewer than in 1960-62 (Chart 3). Coarse grains in 1971 utilized 11,191,000 hectares, 160,000 or 1.5 percent more than in the 1960-62 base period. However, within the land used for coarse grains substantial shifts between crops occurred. The area producing barley and corn increased by 1,568,000 hectares from 1960-62 to 1971. The shift to corn and barley came largely from replacing oats and rye and mixed winter grains. These crops decreased 1,398,000 hectares accounting for 89 percent of the total decline. The small remainder would be from root and tuber crops, hay or wheat.

Barley was grown on 4,620,000 hectares in 1971, 25 percent more than in 1960-62 for an average annual increase of 103,777 hectares or a rate of 2.8 percent per year. This may be misleading unless one knows that most of the increase in the amount of land devoted to barley occurred prior to unification of EC grain prices in 1967. Since that time the land devoted to barley has fluctuated between 4.6 to 4.9 million hectares.

The most dramatic shift is the increase in corn acreage. In 1971 corn was harvested from 2,691,000 hectares or 30 percent more than in 1960-62. But all of the increase has occurred since 1967. EC farmers have been "spurred" to produce more corn since the adoption of unified EC grain prices in 1967. Rising support prices for corn provided the incentive to develop new hybrids that permitted expansion of the land devoted to corn. Formerly, corn for grain was confined to southern France and Italy. Today corn for grain is regularly grown as far north as Belgium. This has made France a major corn producing country.

Yields of Cereals

The average yields of all cereals (rice excluded) improved from 2.5 tons per hectare in 1960-62 to 3.65 tons in 1971 (See Chart 4, p. 8). This was a 46 percent increase. A big boost in yields occurred in 1967 and coincides with the final adjustment to uniform cereal grain prices within the six original EC countries. However, yields have been maintained or improved since 1967. Thus, higher prices weren't the only favorable factor bringing about higher cereal yields. Contributing to the producer response would be price and market certainty reducing risk that encouraged rapid adoption of improved varieties and expanded use of fertilizer and chemicals. Bigger farms that could more readily mechanize were additional factors improving yields.

Wheat yields in 1971 were 3.48 metric tons per hectare and were slightly below the EC average of 3.65 tons for all cereal grains. Wheat yields increased a very substantial 43 percent in the decade. Barley yields in 1971 averaged 3.45 metric tons per hectare and increased only 27 percent from 1960-62. Barley yields were below the 3.65 ton average for all grains in 1971. More importantly, barley yields have failed to improve as much as wheat or oat yields reducing any competitive advantage barley once had from higher yields.

CHART 3 - LAND PRODUCING WHEAT AND COARSE GRAINS, E.C. 1960-71

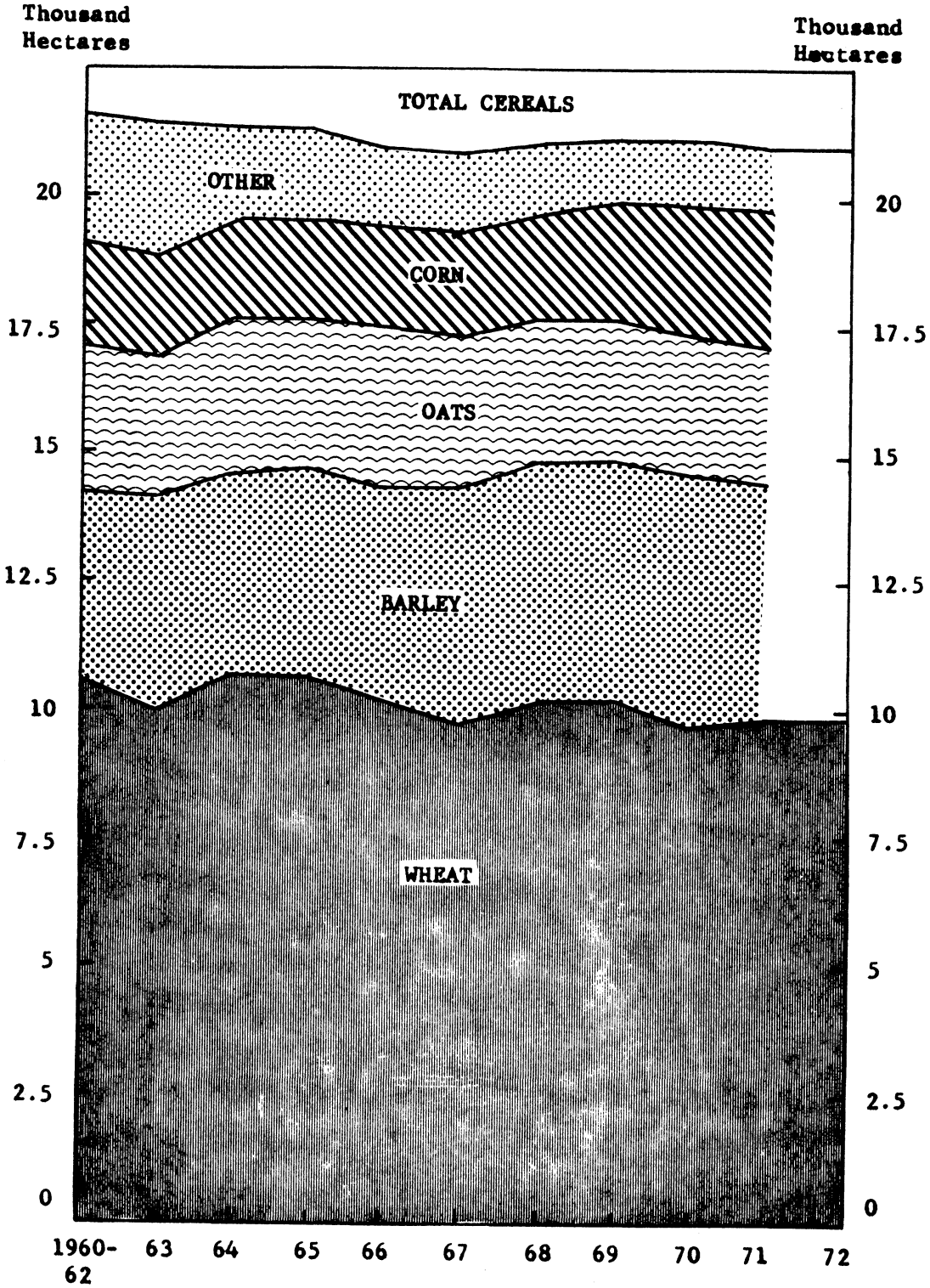
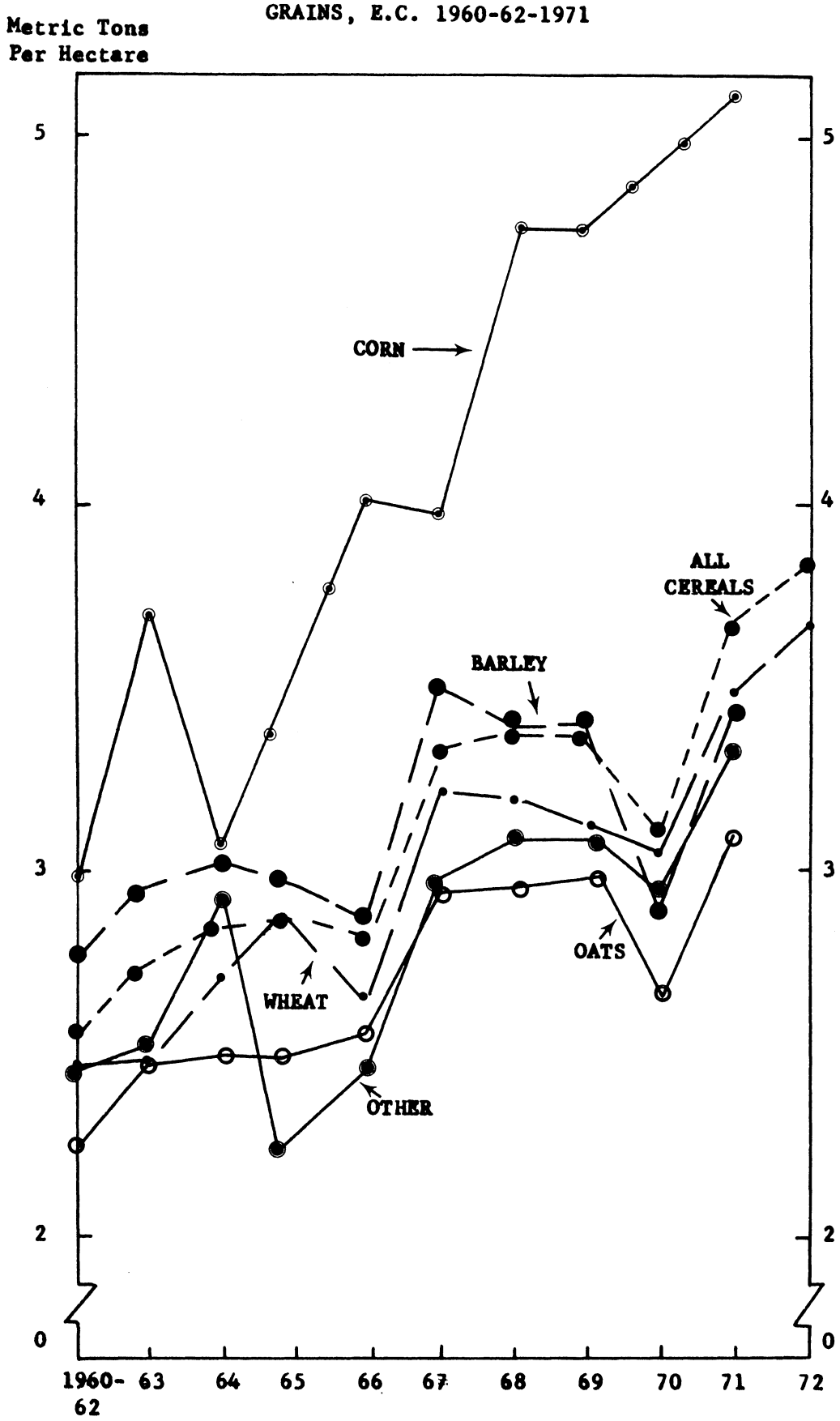


CHART 4 - YIELDS OF WHEAT AND COARSE GRAINS, E.C. 1960-62-1971



Corn yields have improved dramatically (Chart 4). In 1971, corn averaged 5.15 metric tons per hectare (81.1 bushels per acre) and were far above the other cereal grains. Great improvements have occurred in corn yields since 1960-62 when the average output was 2.94 tons. This 75 percent improvement since 1960-62 is two-thirds greater than any other cereal. Especially significant is that corn is the only crop exceeding the average yield each year since 1960-62 and the gap between corn and other grain yields continues to widen. The big increase is due to many factors. But playing a major role was the development of hybrid seed varieties that not only increased yields but also expanded the area in which corn could be grown.

EC corn Production

Corn has gained a major place in EC agriculture. Obviously corn production has risen in the EC as area increased 30 percent (624,000 hectares) and yields shot up 75 percent (2.21 metric tons/hectare) from 1960-62 to 1971. Corn output of 13,852,000 tons in 1971 represented one-third of the total coarse grain production (Chart 5). In 1960-62, corn was one-fifth of the total coarse grain output.

Examining corn production by countries shows that France and Italy produced 96 percent of all the corn grown in the EC in 1971 compared to 99 percent in 1960-62 (Table 2). West Germany is expanding production and accounts for most of the remaining corn production.

Table 2. CORN AREA, YIELDS AND OUTPUT IN FRANCE, ITALY AND EC, 1960-62, 1967 and 1971

	Hectares		Yield		Production	
	No.	Percent of EC	Ave.	Percent of EC	Amount	Percent of EC
	(1000 Ha.)		(m.t./Ha.)		(1000 m.t.)	
France						
1960-62	888	43.0	2.70	92.2	2,382	39.1
1967	1,013	48.9	4.11	103.8	4,162	50.8
1971	1,636	60.8	5.36	104.1	8,771	63.3
1971/1960-62;%	84.2	--	98.5	--	368.2	--
Italy						
1960-62	1,168	56.5	3.14	106.8	3,671	60.3
1967	1,017	49.1	3.80	95.6	3,860	47.1
1971	936	34.8	4.77	92.6	4,469	32.3
1971/1960-62;%	-19.9	--	51.9	--	121.7	--
EC						
1960-62	2,067	100.0	2.94	100.0	6,085	100.0
1967	2,072	100.0	3.96	100.0	8,198	100.0
1971	2,691	100.0	5.15	100.0	13,852	100.0
1971/1960-62;%	30.2	--	75.2	--	227.6	--

SOURCE: Trends in World Grain Production, 1960-72, FAS, USDA, February, 1973.

Italy's Declining Role in Corn Production

In 1960-62, Italy produced 3,671,000 tons or 60 percent of all EC corn. In 1971 the Italians produced 4,469,000 tons or 22 percent more than 1960-62 but this was only about one-third of the EC corn output. Yields in Italy averaged 4.77 tons per hectare in 1971 which is a substantial improvement over the 3.14 ton average in 1960-62. New hybrids were a major contributing factor to increased yields.

Even with improved yields the area devoted to corn in Italy has declined nearly 20 percent since 1960-62. Among the reasons for Italy's declining EC role in corn production are: 1) limited ability to irrigate more land, 2) increasing competition from fruits and vegetables for available arable land, 3) small fragmented farm units that impede mechanization, 4) policy emphasis on the fed cattle industry encouraging the production of corn silage rather than corn for grain, and 5) the variable levy exemption on imported corn in Italy at $7.50 per metric ton below other EC countries.

France's Expanding Role in Corn Production

France's emergence as a major corn producing nation is of recent origin. The interest in forn was accelerated by the development of shorter season and higher yielding hybrids that permitted corn to be grown in the rich Paris Basin where favorable farm size and structure was conducive to rapid expansion. Yields in France have doubled since 1960-62 encouraging rapid expansion in the producing area. Corn area for grain has been expanding at nearly eight (8) percent per year. The result is that in 1971, France produced 8,771,000 tons of corn an amazing 3.7 times more than in 1960-62. This was nearly two-thirds of the EC total making France self sufficient and an exporter of corn, mostly to other EC countries.

The expansion in land devoted to any crop accelerates as profitability improves relative to other alternatives. Corn in the EC, particularly in France, is an excellent example. A thumb rule for approximating equal net returns per hectare in 1972, considering the prevailing prices and costs, in the EC for wheat, barley and corn was a yield ratio between the crops of 1:0; 1:05; to 1:25. Expressed another way, approximately equal net returns could be expected from yields of 4.0 metric tons per hectare of wheat, 4.2 tons of barley and 5.0 tons of corn. Average yields in France for these three cereals in 1971 were 3.38; 3.35 and 5.36 tons per hectare which gives a ratio of 1:0; 0:87; to 1:39 for wheat, barley and corn respectively. The advantage in cereal production clearly lies with corn where farm size and climate permit corn to be grown.

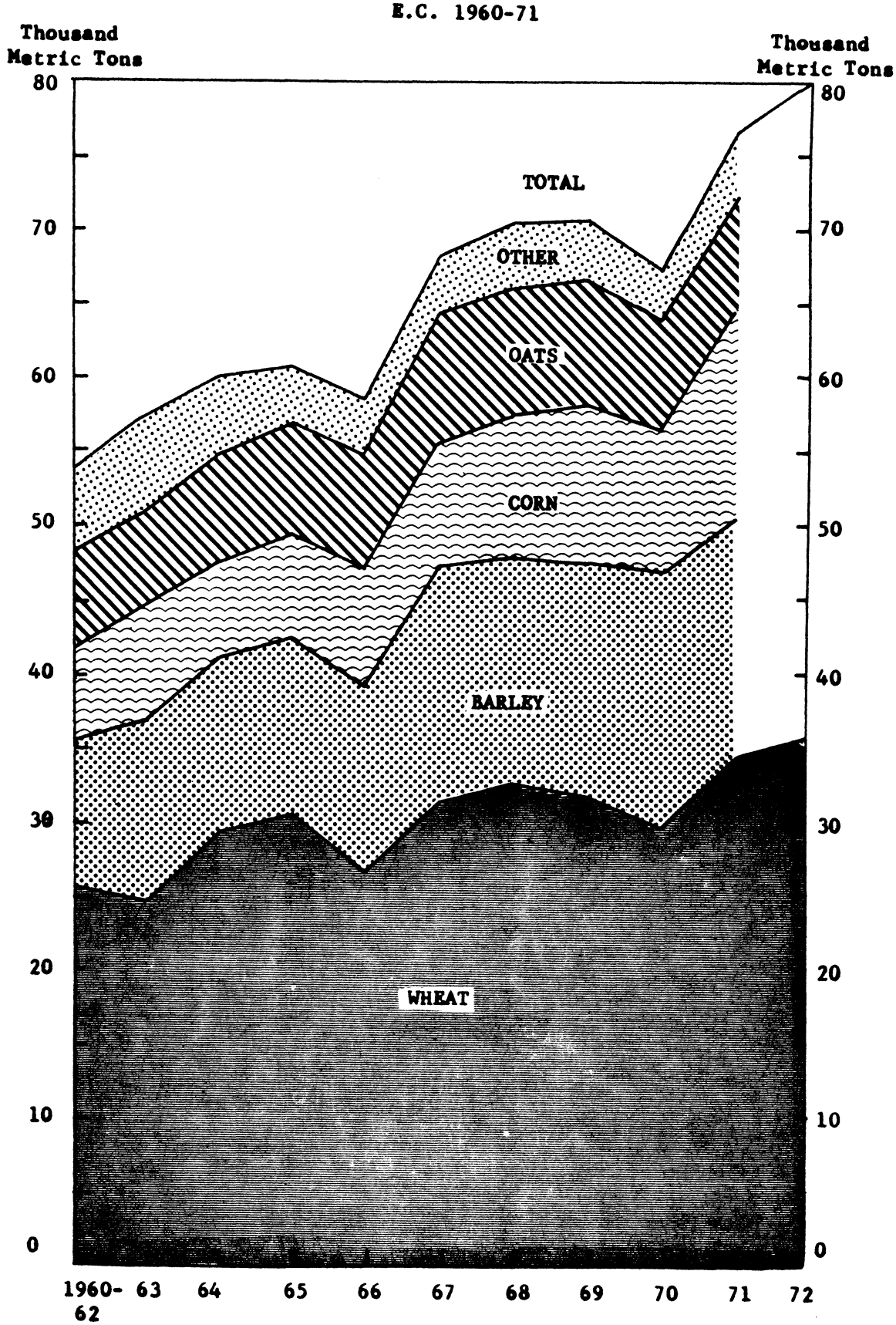
Further expansion in the amount of land used in France for corn is anticipated. Corn yields are expected to continue to improve relative to other cereals. EC price policies are expected to continue to improve relative to other cereals. EC price policies are expected to continue to encourage corn production. Expanding the corn producing area in France will come largely at the expenses of oats, rye and barley. Also, corn silage acreage has expanded by leaps and bounds and has replaced root crops and rotated hay land. Continued substitution encouraging further expansion of silage for root and rotated hay crops is expected because EC price policies should accelerate the expansion in cattle numbers.

Total Cereal Output

The net effect of changes in yields and land devoted to cereals is that

total production of wheat and coarse grains in the EC during the crop year of 1971 reached a record 77 million metric tons or 42 percent above the 54 million tons produced in 1960-62 (Chart 5). This was reached even though

CHART 5 - OUTPUT OF WHEAT AND COARSE GRAINS
E.C. 1960-71



there was a small 2.5 percent decline in the total area devoted to wheat and coarse grains.

Wheat output has increased slightly and averaged nearly 29 million tons in the 1960-71 period. Coarse grain output has grown at an annual rate slightly over 4 percent per year. Barley output has increased at an average annual rate of six (6) percent per year. Corn production has more than doubled increasing at an annual rate exceeding 10 percent. The reasons behind the growth rates have been explained in the sections discussing yields and shifts in land use. All the evidence would indicate a continuation of the upward trend in feed grain output and stabilization of wheat output.

Summary

Expanding use of land for urban development and permanent pasture in the EC has resulted in a seven (7) percent decrease in the amount of land available for the production of crops since 1960-62. There has been a three (3) percent increase in the amount of land used for permanent pasture as the farm structure and growing demand for meat with higher prices and EC price policies, especially for milk encouraged expanding cattle numbers.

EC support policies favor grains and has held the area devoted to cereal grain production to a small decrease. Large declines have occurred in root and tuber crops, pulses and industrial crops with smaller declines in hay and fruit, vegetable and other crops. Within the area producing grain crops large increases have occurred in the amount of land devoted to barley and corn for grain. These crops are replacing rye, mixed winter grain, and oats. Improved corn varieties have substantially expanded the the area adapted to growing corn and raised yields. The result is a big increase in feed grain output.

France's corn output has increased over 3.5 times since 1960-62 or over 20 percent per year. Of the annual increase about eight (8) percent comes from expanded acreage and 12 percent from yields. This upward trend seems likely to continue though the rate of increase cannot continue so large. In any case, feed grain output in France will continue to rise rapidly largely the result of expanding corn output.

In considering the impacts on the U.S. grain trade, the increase in feed grain output could be fully utilized in the EC. The U.S. has been and may continue to be a residual supplier. The trade balance might be relatively unchanged with strong demand for meat, especially for beef, in the EC encouraging a shift toward more hogs and poultry plus grain feeding of cattle thus expanding the need for feed grains. But with the capacity to expand feed grain production in the EC and unless CAP policies for cereals are changed the opportunity for expanding U.S. feed grain markets in the EC will continue to be severely limited. Offsetting to some U.S. producers will be much greater need for soybeans and soybean products to meet the protein food and feed requirements in the EC. The U.S. is the world's major supplier of soybeans and further large increases in soybean output will be required to meet European and world needs.

Appendix Table 1. GRAIN PRODUCTION AND USE, EC, 1960-62/1972

Fiscal Year	Production	Net Imports	Total Consumption[1/]	Feed Consumption	Food Consumption & Other
			(1000 Metric Tons)		
1960-62	51,870	10,700	63,251	33,125	30,127
1963	57,756	9,745	64,878	35,134	29,744
1964	56,706	9,447	67,627	38,075	29,552
1965	59,431	7,275	68,357	38,658	29,699
1966	60,206	11,427	70,172	39,958	30,214
1967	57,984	11,893	70,963	40,983	29,980
1968	68,157	10,290	74,593	44,154	30,439
1969	69,712	7,387	74,534	44,383	30,151
1970	69,852	2,884	76,766	46,365	30,401
1971	66,804	9,951	77,356	46,755	30,601
1972	76,149	3,898	80,236	49,281	30,955
Average	61,413	8,945	70,402	40,239	30,163
% Change 1972/1960-62	+18.4	-16.4	+11.3	+21.5	+.01

1/ Change of stocks not shown.

SOURCE: Grain and Feed Division, F.A.S., USDA, October, 1972.

Appendix Table 2. LAND USE PATTERNS IN THE EC 1960-70

Year	Total Agr. Land	Permanent Pasture	Arable Land	Hay Crops	Total Grains[1]	Fruits Vegetables & Others[2]	Roots & Tuber Crops[3]	Other[4]
				(1000 Hectares)[5]				
(1960-62) Average	72,501.2	25,911.2	46,590.0	10,456.9	21,301.6	8,118.2	5,350.1	1,363.9
1963	71,955.9	25,938.7	46,057.2	10,444.4	20,993.3	8,175.4	5,126.2	1,317.9
1964	71,685.5	26,074.0	45,611.5	10,239.7	21,064.9	8,204.7	4,807.7	1,294.6
1965	71,322.3	26,314.4	45,007.9	10,081.9	21,039.5	8,116.1	4,528.4	1,240.0
1966	71,060.0	26,503.3	44,556.7	10,144.9	20,761.5	8,167.1	4,282.1	1,201.4
1967	70,772.4	26,717.7	44,054.7	9,808.8	20,673.5	8,157.7	4,246.1	1,168.2
1968	70,161.0	26,652.1	43,508.9	9,341.3	20,924.4	7,967.4	4,110.9	1,164.9
1969	70,129.0	26,738.2	43,390.8	9,368.5	21,048.1	7,914.1	3,849.2	1,210.9
1970[6]	69,968.0	26,711.0	43,257.0	9,635.0	20,949.0	7,629.0	3,809.0	1,235.0
Average	71,323	26,307	45,019	10,039	21,032	8,062	4,619	1,265
% Change 1970/1960-62	96.5	103.1	92.8	92.1	98.3	94.0	71.2	89.8

1/ Does not include area that has more than one crop per year.
2/ Includes olives, grapes, nurseries, etc.
3/ Root and tuber crops including potatoes, sugarbeets, forage beets, other cultivated forage crops.
4/ Includes pulses, industrial crops like rapeseed, other oilseeds, flax, hemp, tobacco, hops, etc.
5/ One hectare equals 2.471 acres.
6/ Preliminary.

SOURCE: Statistique Agricole, 1968-No. 1, 1968-No. 8, 1971-No. 4.

Appendix Table 3. AREA OF WHEAT AND COARSE GRAINS HARVESTED, EC, 1960-71

Year	Total Cereals	Wheat	Coarse Grains				
			Total	Barley	Corn	Oats	Other[1/]
			1,000 Hectares[2/]				
1960-62	21,554	10,523	11,031	3,686	2,067	2,852	2,426
1963	21,279	9,975	11,304	4,129	2,086	2,701	2,488
1964	21,346	10,632	10,714	3,934	1,983	3,084	1,713
1965	21,254	10,626	10,628	4,064	1,925	2,960	1,679
1966	20,981	10,037	10,944	4,401	1,981	3,014	1,548
1967	20,819	9,728	11,121	4,581	2,072	3,014	1,454
1968	21,122	10,209	10,913	4,562	2,048	2,888	1,415
1969	21,185	10,119	11,066	4,691	2,265	2,828	1,282
1970	21,127	9,720	11,407	4,901	2,610	2,653	1,243
1971[3/]	21,021	9,830	11,191	4,620	2,691	2,644	1,236
Average	21,233	10,204	11,032	4,245	2,155	2,862	1,778
Percent Change 1971/1960-62	97.5	93.4	101.5	125.3	130.2	92.7	50.9

NOTE: The data for "other grains" before 1964 includes mixed summer and winter grains; from 1964 onward these mixed summer grains are counted under oats and other mixed winter grains under rye.

1/ Other includes rye, mixed winter grains, sorghum, etc.
2/ One hectare equals 2.471 acres.
3/ Preliminary.

SOURCE: Production Vegetale, 1968-No. 14, Production Vegetale, 1972-No. 6.

Appendix Table 4. AVERAGE YIELDS PER HECTARE FOR WHEAT AND COARSE GRAINS, EC, 1960-71

Year	All Cereals	Wheat	Coarse Grains				
			Total	Barley	Corn	Oats	Other
	(Metric Tons/Hectare)1/						
1960-62	2.50	2.44	2.56	2.72	2.94	2.19	2.44
1963	2.69	2.46	2.88	2.93	3.65	2.45	2.51
1964	2.81	2.75	2.86	3.02	3.09	2.50	2.87
1965	2.85	2.87	2.83	2.94	3.55	2.49	2.20
1966	2.79	2.64	2.92	2.84	4.02	2.55	2.44
1967	3.30	3.22	3.35	3.50	3.96	2.91	2.97
1968	3.33	3.18	3.44	3.37	4.72	2.93	3.10
1969	3.33	3.12	3.49	3.38	4.70	2.98	3.09
1970	3.19	3.05	3.28	2.88	4.92	2.68	2.91
1971	3.65	3.48	3.77	3.45	5.15	3.15	3.33
Average	2.95	2.84	3.04	3.01	3.88	2.60	2.73
% Change 1971/1960-62	146	142.6	147.3	126.8	175.2	143.8	136.5

1/ Metric Ton = 2204.6 pounds; hectare = 2.471 acres

SOURCE: Production Vegetale 1968-No. 14, Production Vegetale, 1972-No. 6

Appendix Table 5. PRODUCTION OF WHEAT AND COARSE GRAINS, EC, 1960-71

Year	Total	Wheat	Coarse Grains				
			Total	Barley	Corn	Oats	Other[1]
			1,000 Metric Tons[2]				
1960-62	53,947	25,670	28,277	10,024	6,085	6,237	5,931
1963	57,164	24,582	32,582	12,116	7,613	6,608	6,245
1964	59,907	29,289	30,622	11,869	6,127	7,706	4,920
1965	60,610	30,485	30,125	11,950	6,835	7,638	3,702
1966	58,500	26,526	31,974	12,482	7,970	7,751	3,771
1967	68,630	31,332	37,299	16,019	8,198	8,757	4,325
1968	70,289	32,414	37,891	15,383	9,660	8,462	4,386
1969	70,451	31,548	38,904	15,873	10,646	8,426	3,956
1970	67,356	29,678	37,676	14,100	12,852	7,103	3,621
1971[3]	76,767	34,232	42,535	16,107	13,852	8,460	4,116
Average	62,626	28,925	33,703	12,998	8,500	7,469	4,720
Percent Change 1971/1960-62	142.3	137.9	150.4	160.7	227.6	135.6	69.4

NOTE: The data for "other grains" before 1964 includes mixed summer and winter grains; from 1964 onward these mixed summer grains are counted under oats and other mixed winter grains under rye.

1/ Other includes rye, mixed winter grains, sorghum, etc.
2/ One metric ton equals 2204.6 pounds.
3/ Preliminary.

SOURCE: Production Vegetale, 1968-No. 14, Production Vegetale, 1972-No. 6.